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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

REC'D	10 FEB 2005
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Applicant's or agent's file reference O120 0010	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CA 03/01789	International filing date (day/month/year) 19.11.2003	Priority date (day/month/year) 19.11.2002
International Patent Classification (IPC) or both national classification and IPC A01G31/04		
Applicant MARCHILDON, Ted ET AL.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 5 sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the opinion II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the International application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 16.06.2004	Date of completion of this report 11.02.2005
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Caldentey Pozo, F Telephon No. +31 70 340-4106



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International application No. **PCT/CA 03/01789**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-11 as originally filed

Claims, Numbers

1-14 as amended (together with any statement) under Art. 19 PCT
15-19 filed with telefax on 10.11.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The Examining Division has carefully considered the arguments put forward in your fax from 22.01.2005.

2. Reference is made to the following documents:

D1: CA-A-2 396 317

D2: US-A-5 584 141

D3: US-A-3 909 978

3. Although claims 1 and 19 have been drafted as separate independent claims, they relate effectively to the same subject-matter and differ from each other only with regard to the definition of the subject-matter for which protection is sought and/or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.

4. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **independent claim 1** does not involve an inventive step in the sense of Article 33(3) PCT.

4.1. The document D2 is regarded as being the closest prior art to the subject-matter of claim 1 since it is directed to a similar purpose as the present application (i.e. to an efficient use of the floor area) and shows (the references in parentheses applying to this document):

A plant-growing apparatus comprising:

- (a) a plurality of rotatable plant-growing modules (80), each said module (80) comprising a structure for holding plant-growing containers (130)
- (b) module support means (40) for supporting each said module (80) and for rotating each said module (80) about its longitudinal axis (82) in a substantially horizontal position and
- (c) module moving means (110) for conveying said module support means (40) and modules (80) along a path between two separated positions
- (d) water-feeding means (28) for feeding water to said plants.

- 4.2. The subject-matter of claim 1 differs from this known plant-growing apparatus in that the plant growing modules comprise a cylindrical structure such that the plants grow in the containers radially inwardly of said cylindrical structure towards a light source inside said cylindrical structure and roots of the plants grow radially outwardly of the cylindrical structure.
- 4.3. The objective technical problem (the attention of the reader is drawn to the fact that the "objective technical problem" means the aim and task of modifying or adapting the closest prior art to provide the technical effects that the invention provides over the prior art. The objective technical problem derived in this way is not necessary what the applicant presented as "the problem" in his/her application) to be solved by the different features is to have an optimal use of light.
- 4.4. The prior art document D2 teaches (see D2, col. 1, lines 13-16) that prior apparatus attempt to address the need to maximize the use of space within a greenhouse and that one common technique is to provide moving plant carriers to equalize the light exposure provided to a number of plants. Moreover this document D2 discloses (see D2, col. 3, lines 36-38) also that supplemental light can be provided utilizing the support of top frame member 24. It is therefore clear from this document D2 that the exposure to light of the plants is a point to be taken into consideration in rotatable plant growing apparatus.
- 4.5. One of the possibilities to light plants is proposed in D1, see document D1, abstract and figs. 1 and 2, where the features of the application which differ from the closest prior art document D2 (see paragraph 4.2. of the present communication) have already been employed for the same purpose in a similar rotatable plant growing apparatus. It would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply these features with corresponding effect to a rotatable plant growing apparatus according to document D2, thereby arriving at a rotatable plant growing apparatus according to claim 1. The way how the cylindrical structure for holding plant growing containers disclosed in D1 can be adapted into a rotating module that is moved from one position to another in a plant growing apparatus as disclosed in D2 relates to constructional features which form part of the normal consideration of the person skilled in the art, i.e. they are the result of routine engineering and do not constitute an inspired design.

- 5.1. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding **independent claim 14**, which therefore is also considered not inventive.

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- 5.2. The same reasoning applies also to the subject matter of **independent claim 19**. Furthermore the use of sprocket wheels and endless chains instead of belts and pulleys as disclosed by D2 does not involve an inventive step since these are obvious alternatives to move the modules (see e.g. D3).
6. **Dependent claims 2-13 and 15-18** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see documents and the corresponding passages cited in the search report.